

REMARKS

Claims 1, 2, 4, 6-8, 13-14, 23, 25-27, and 30 are currently pending. Claims 15-22 have been cancelled and claims 3, 5, 9-12, 24, and 28-29 are withdrawn from consideration. It is submitted that the withdrawn claims should be reconsidered and reintroduced into the application when the independent claims from which they depend are found allowable.

On the merits, the Examiner rejected claims 1, 2, 4, 6-8, 13-14, 23, 25-27, and 30 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,498,468 to Blaney. The Examiner rejected claim 13 under 35 U.S.C. § 103(a) as unpatentable over Blaney. Additionally, the Examiner rejected claims 1-2, 4, 6, 23, and 25-27 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 3,110,905 to Rhodes, in view of, U.S. Patent No. 6,060,145 to Smith. Finally, the Examiner rejected claims 1-2, 4, 6-8, 13, 23, and 25-27 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,142,752 to Greenway, in view of U.S. Patent No. 4,345,730 to Leuvelink.

Independent claims 1 and 23 define a hydroentangling device used in combination with a support fabric that is comprised of flattened filaments and is usable for the production of hydroentangled nonwoven product. The support fabric is not part of the final hydroentangled nonwoven product. For example, as can be seen in Figure 8 of the present application, the support fabric 38 acts as the conveyor belt in a hydroentangling device. Fibers are deposited on the support fabric and undergo hydroentanglement and are subsequently removed from the support fabric for further processing.

Response to the § 102(b) Rejection

The Examiner rejected independent claims 1 and 23 as anticipated by Blaney, which the Examiner stated “discloses a fabric comprising flattened filaments.” The Examiner conceded that Blaney fails to disclose using the fabric as a hydroentangling support, but stated that “it appears that the fabric is capable of being used as a hydroentangling support.”

In order for a claim to be anticipated by prior art under § 102, the prior art must disclose each and every element of the claim. Even assuming, for the sake of argument, that Blaney did disclose a fabric usable as a support fabric in a hydroentanglement device, and applicants submit that it does not, Blaney does not disclose a hydroentanglement device as required by independent claims 1 and 23. The Examiner contends that the description in Blaney of using high pressure water jets to soften the fibrous matrix of the Blaney fabric discloses a hydroentanglement device. Applicants respectfully disagree with this contention. The description relied upon by the Examiner refers to a softening processing step that takes place after the fabric is created and flattened. The water jets described are used to soften the matrix of the prepared fabric, not to cause fibers to entangle and thereby create fabric.

Additionally, applicants respectfully submit that the independent claims 1 and 23 present more than an intended use of support fabric with a hydroentanglement device. The claimed feature that the support fabric be “usable for the production of a hydroentangled nonwoven product” provides a structural limitation of the claimed fabric that must be considered for patentability purposes.

Applicants submit that the fabric disclosed in Blaney is a final product, and not a “support fabric” in the production process. Furthermore, applicants respectfully submit that the fabric of Blaney could not be used as a “support fabric” in a hydroentanglement device. Blaney

does not disclose a fabric having the structural capability to be usable for the production of hydroentangled nonwoven product. Applicants respectfully submit that the fabric of Blaney, as described in column 5, lines 1-40, includes a low-softening point thermoplastic component such that the fibrous matrix may be mechanically softened by, for example, liquid jets that are high-pressure jets of water. The Examiner likewise stated that “Blaney discloses that high-pressure water jets may be present to soften the fibrous matrix after the flattening force is applied.” Because the fabric of Blaney is soft enough to be distorted by high-pressure jets of water, it is not capable of performing the claimed use defined in applicants’ independent claims 1 and 23 of being usable for the production of hydroentangled nonwoven product. Were the fabric of Blaney to be used as a support fabric for hydroentangling a nonwoven product, it would become distorted during the process and the nonwoven product would likely become entangled with the Blaney fabric.

Therefore, for the reasons stated above, applicants respectfully submit that independent claims 1 and 23 are patentable over Blaney.

Dependent claims 2, 4, 6-8, 13-14, 25-27, and 30 depend from either claim 1 or claim 23, as discussed above, and are similarly patentable over Blaney.

Responses to the § 103(a) Rejections

Rejection Based Upon Rhodes and Smith

The Examiner rejected independent claims 1 and 23 under § 103(a) as being unpatentable over Rhodes in view of Smith. The Examiner stated that Rhodes disclosed a tufted fabric with flattened filaments. The Examiner conceded that Rhodes does not disclose using the fabric as a hydroentanglement support fabric. The Examiner stated that Smith discloses including a

hydroentangled nonwoven secondary carpet backing material with tufted fabric for increased delamination strength and increased dimensional stability.

Applicants respectfully submit that Smith discloses a modified secondary backing fabric for a carpet. The modified secondary backing fabric once prepared is joined to the primary backing fabric with an adhesive material to produce a carpet. The Examiner appears to rely upon the disclosure in Smith of a secondary backing fabric for carpet manufacture that has improved delamination and strength characteristics merely as providing the motivation to use the fabric of Rhodes as a hydroentanglement support fabric.

Applicants respectfully submit that, as stated above with respect to the Examiner's § 102 rejection, the claimed feature that the support fabric be "usable for the production of a hydroentangled nonwoven product" provides a structural limitation of the claimed fabric that must be considered for patentability purposes. Applicants submit that Rhodes fails to disclose or suggest that the fabric disclosed therein is capable of being used as a hydroentanglement support fabric. Furthermore, a tufted fabric, as is disclosed in Rhodes, and seen in Figures 3-5 therein, includes a great deal of open space due to the tufting of the fabric. Were the fabric of Rhodes to be used as a support fabric in a hydroentanglement device as claimed in independent claims 1 and 23 of the present application, the high-pressure water used to entangle fibers lying on the fabric would likely cause the fibers to entangle not only with themselves but with the tufted fabric, preventing separation of the final hydroentangled product from the tufted support fabric.

Applicants respectfully submit that the combination of Rhodes and Smith fails to disclose or suggest a hydroentanglement device or a fabric suitable for use as a support fabric in combination with a hydroentanglement device. Additionally, applicants respectfully submit that even if these elements were shown, one skilled in the art would not look to a carpet backing

material as in Smith in order to find motivation to use the fabric of Rhodes in a hydroentanglement device. As stated above, applicants respectfully submit that there is no motivation anywhere in the art of record to suggest the applied combination. Since there is no motivation in the references themselves, the Examiner has apparently relied upon impermissible hindsight to create a mosaic of features from the prior art in an attempt to create a resemblance to applicants' claimed invention.

Applicants respectfully submit that for the foregoing reasons, independent claims 1 and 23 are patentable over Rhodes in view of Smith.

Dependent claims 2, 4, 6-8, 13-14, 25-27, and 30 depend from either claim 1 or claim 23, as discussed above, and are similarly patentable over the combination of Rhodes and Smith.

Rejection Based Upon Greenway and Leuvelink

The Examiner rejected independent claims 1 and 23 under § 103(a) as being unpatentable over Greenway in view of Leuvelink. The Examiner stated that Greenway discloses a hydroentanglement device in combination with a conveyor belt. The Examiner conceded that Greenway does not disclose specific fabric used as a conveyor belt and hydroentanglement support fabric. The Examiner stated that Leuvelink discloses that it is known in the conveyor belt art to use a fabric comprising flattened filaments.

However, applicants respectfully submit that Leuvelink does not disclose a material having flattened filaments and suitable for use as a support fabric in a hydroentanglement device. Rather, Leuvelink describes a belt made of helical coils arranged side-by-side and connected together by respective hinge wires. The Examiner points specifically to Leuvelink at col. 4, line 63 - col. 5 line 23 as teaching that it is known in the art of conveyor belts to use a fabric comprising flattened filaments. Applicants respectfully submit that the referred-to section of

Leuvelink merely describes that the dimensional stability of the material comprised of helical coils is surprisingly high. Applicants respectfully submit that nowhere in Leuvelink is it disclosed to use a fabric comprised of flattened filaments in a conveyor belt, let alone in combination with a hydroentanglement device.

Applicants respectfully submit that for the foregoing reasons, independent claims 1 and 23 are patentable over Greenway in view of Leuvelink.

Dependent claims 2, 4, 6-8, 13-14, 25-27, and 30 depend from either claim 1 or claim 23, as discussed above, and are similarly patentable over the combination of Greenway and Leuvelink.

In the event that the Examiner disagrees with any of the foregoing comments concerning the disclosures in the cited prior art, it is requested that the Examiner indicate where in the reference, there is the basis for a contrary view.


The Examiner has apparently made of record, but not applied, several documents. The Applicants appreciate the Examiner's implicit finding that these documents, whether considered alone or in combination with others, do not render the claims of the present application unpatentable.

CONCLUSION

In view of the foregoing remarks, it is believed that all of the claims in this application are patentable over the prior art, and early and favorable consideration thereof is solicited.

Please charge any fees incurred by reason of this response and not paid herewith to
Deposit Account No. 50-0320.

Respectfully submitted,
FROMMER LAWRENCE & HAUG LLP

By: 

Ronald R. Santucci
Reg. No. 28,988
(212) 588-0800